Amendments to the Claims:

Following is a complete listing of the claims pending in the application. None of the claims have been amended in this paper.

1. (Cancelled)

2. (Previously presented) A method for removing material from a microelectronic substrate, comprising:

disposing an electrolytic liquid between an electrically conductive material of a microelectronic substrate and at least one electrode, the electrolytic liquid having about 80% water or less;

contacting the microelectronic substrate with a polishing pad material;

electrically coupling the conductive material of the microelectronic substrate to a source of varying electrical signals via the electrolytic liquid and the at least one electrode;

applying a varying electrical signal to the conductive material;

forming an oxy-methoxide complex with the electrically conductive material;

moving at least one of the polishing pad material and the microelectronic substrate relative to the other; and

removing at least a portion of the conductive material from the microelectronic substrate while the electrolytic liquid is adjacent to the electrically conductive material.

3. (Previously presented) The method of claim 22, further comprising oxidizing at least a portion of the conductive material by applying the varying electrical signal to the conductive material.

4. (Previously presented) The method of claim 22 wherein the conductive material includes tantalum and wherein the method further comprises complexing the tantalum as a metal-organic species in solution.

5. (Previously presented) The method of claim 22 wherein disposing an electrolytic liquid includes disposing an electrolytic liquid having about 50% water or less.

6. (Previously presented) The method of claim 22 wherein disposing an electrolytic liquid includes disposing an electrolytic liquid having about 10% water or less.

7. (Previously presented) The method of claim 22 wherein disposing an electrolytic liquid includes disposing an electrolytic liquid having about 1% water or less.

8. (Previously presented) The method of claim 22 wherein disposing an electrolytic liquid includes disposing the electrolytic liquid adjacent to a conductive material that includes tantalum.

9. (Previously presented) The method of claim 22 wherein disposing an electrolytic liquid includes disposing the electrolytic liquid adjacent to a conductive material that includes at least one of tantalum and tantalum nitride.

10. (Previously presented) The method of claim 22 wherein disposing an electrolytic liquid includes disposing an electrolytic liquid having an organic solvent and a salt as constituents.

11. (Previously presented) A method for removing material from a microelectronic substrate, comprising:

disposing an electrolytic liquid between an electrically conductive material of a microelectronic substrate and at least one electrode, the electrolytic liquid having about 80% water or less and having methanol as a constituent;

contacting the microelectronic substrate with a polishing pad material;

electrically coupling the conductive material of the microelectronic substrate to a source of varying electrical signals via the electrolytic liquid and the at least one electrode;

applying a varying electrical signal to the conductive material;

moving at least one of the polishing pad material and the microelectronic substrate relative to the other; and

removing at least a portion of the conductive material from the microelectronic substrate while the electrolytic liquid is adjacent to the electrically conductive material.

12. (Previously presented) A method for removing material from a microelectronic substrate, comprising:

disposing an electrolytic liquid between an electrically conductive material of a microelectronic substrate and at least one electrode, the electrolytic liquid having about 80% water or less and having ammonium chloride as a constituent;

contacting the microelectronic substrate with a polishing pad material;

electrically coupling the conductive material of the microelectronic substrate to a source of varying electrical signals via the electrolytic liquid and the at least one electrode;

applying a varying electrical signal to the conductive material;

moving at least one of the polishing pad material and the microelectronic substrate relative to the other; and

removing at least a portion of the conductive material from the microelectronic substrate while the electrolytic liquid is adjacent to the electrically conductive material.

13. (Previously presented) The method of claim 22 wherein disposing an electrolytic liquid includes disposing an electrolytic liquid having a non-aqueous polar solvent as a constituent.

14. (Previously presented) The method of claim 22 wherein disposing an electrolytic liquid includes disposing an electrolytic liquid having an organic amine as a constituent.

15. (Previously presented) The method of claim 22 wherein disposing an electrolytic liquid includes disposing an electrolytic liquid having an organic acid as a constituent.

16. (Previously presented) A method for removing material from a microelectronic substrate, comprising:

disposing an electrolytic liquid between an electrically conductive material of a microelectronic substrate and at least one electrode, the electrolytic liquid having about 80% water or less and having a nitrile as a constituent;

contacting the microelectronic substrate with a polishing pad material;

electrically coupling the conductive material of the microelectronic substrate to a source of varying electrical signals via the electrolytic liquid and the at least one electrode;

applying a varying electrical signal to the conductive material;

moving at least one of the polishing pad material and the microelectronic substrate relative to the other; and

removing at least a portion of the conductive material from the microelectronic substrate while the electrolytic liquid is adjacent to the electrically conductive material.

17. (Previously presented) A method for removing material from a microelectronic substrate, comprising:

disposing an electrolytic liquid between an electrically conductive material of a microelectronic substrate and at least one electrode, the electrolytic liquid having about 80% water or less and having an isonitrile as a constituent;

contacting the microelectronic substrate with a polishing pad material;

electrically coupling the conductive material of the microelectronic substrate to a source of varying electrical signals via the electrolytic liquid and the at least one electrode;

applying a varying electrical signal to the conductive material;

moving at least one of the polishing pad material and the microelectronic substrate relative to the other; and

removing at least a portion of the conductive material from the microelectronic substrate while the electrolytic liquid is adjacent to the electrically conductive material.

18. (Previously presented) A method for removing material from a microelectronic substrate, comprising:

disposing an electrolytic liquid between an electrically conductive material of a microelectronic substrate and at least one electrode, the electrolytic liquid having about 80% water or less and having an aromatic hydrocarbon as a constituent;

contacting the microelectronic substrate with a polishing pad material;

electrically coupling the conductive material of the microelectronic substrate to a source of varying electrical signals via the electrolytic liquid and the at least one electrode;

applying a varying electrical signal to the conductive material;

moving at least one of the polishing pad material and the microelectronic substrate relative to the other; and

removing at least a portion of the conductive material from the microelectronic substrate while the electrolytic liquid is adjacent to the electrically conductive material.

19. (Previously presented) The method of claim 22 wherein disposing an electrolytic liquid includes disposing an electrolytic liquid having an organic phosphate as a constituent.

20. (Previously presented) A method for removing material from a microelectronic substrate, comprising:

disposing an electrolytic liquid between an electrically conductive material of a microelectronic substrate and at least one electrode, the electrolytic liquid having about 80% water or less and having a halocarbon as a constituent;

contacting the microelectronic substrate with a polishing pad material;

electrically coupling the conductive material of the microelectronic substrate to a source of varying electrical signals via the electrolytic liquid and the at least one electrode;

applying a varying electrical signal to the conductive material;

moving at least one of the polishing pad material and the microelectronic substrate relative to the other; and

removing at least a portion of the conductive material from the microelectronic substrate while the electrolytic liquid is adjacent to the electrically conductive material.

21. (Previously presented) A method for removing material from a microelectronic substrate, comprising:

disposing an electrolytic liquid between an electrically conductive material of a microelectronic substrate and at least one electrode, the electrolytic liquid having about 80% water or less and having an alkoxide as a constituent;

contacting the microelectronic substrate with a polishing pad material;

electrically coupling the conductive material of the microelectronic substrate to a source of varying electrical signals via the electrolytic liquid and the at least one electrode;

applying a varying electrical signal to the conductive material;

moving at least one of the polishing pad material and the microelectronic substrate relative to the other; and

removing at least a portion of the conductive material from the microelectronic substrate while the electrolytic liquid is adjacent to the electrically conductive material.

22. (Previously presented) A method for removing material from a microelectronic substrate, comprising:

disposing an electrolytic liquid between an electrically conductive material of a microelectronic substrate and at least one electrode, the electrolytic liquid having about 80% water or less;

contacting the microelectronic substrate with a polishing pad material;

electrically coupling the conductive material of the microelectronic substrate to a source of varying electrical signals via the electrolytic liquid and the at least one electrode;

applying a varying electrical signal to the conductive material;

moving at least one of the polishing pad material and the microelectronic substrate relative to the other;

removing at least a portion of the conductive material from the microelectronic substrate while the electrolytic liquid is adjacent to the electrically conductive material.;

and least restricting exposure of the electrolytic liquid to water.

23. (Previously presented) A method for removing material from a microelectronic substrate, comprising disposing a microelectronic substrate and an electrolytic liquid in an enclosure, the enclosure at least restricting exposure of the microelectronic substrate and the electrolytic liquid to water;

disposing the an electrolytic liquid between an electrically conductive material of the microelectronic substrate and at least one electrode, the electrolytic liquid having about 80% water or less;

contacting the microelectronic substrate with a polishing pad material;

electrically coupling the conductive material of the microelectronic substrate to a source of varying electrical signals via the electrolytic liquid and the at least one electrode;

applying a varying electrical signal to the conductive material;

moving at least one of the polishing pad material and the microelectronic substrate relative to the other; and

removing at least a portion of the conductive material from the microelectronic substrate while the electrolytic liquid is adjacent to the electrically conductive material.

24. (Previously presented) The method of claim 22 wherein the at least one electrode is a first electrode and wherein the method further comprises:

positioning the first electrode and a second electrode proximate to and spaced apart from the microelectronic substrate;

disposing the electrolytic liquid in fluid communication with the microelectronic substrate, the first electrode and the second electrode; and

passing the electrical signal from the first electrode through the electrolytic liquid to the microelectronic substrate and from the microelectronic substrate through the electrolytic liquid to the second electrode.

25. (Previously presented) The method of claim 22, further comprising:

moving at least one of the microelectronic substrate and the polishing pad material relative to the other; and

controlling a normal force between the microelectronic substrate and the polishing pad material to be about 1.0 psi or less.

26. (Cancelled)

27. (Previously presented) The method of claim 33, further comprising:

contacting the microelectronic substrate with a polishing pad material; and

moving at least one of the microelectronic substrate and the polishing pad material relative to the other.

28. (Previously presented) The method of claim 33, further comprising complexing the tantalum as a metal-organic species in solution.

29. (Previously presented) The method of claim 33 wherein disposing an electrolytic liquid includes disposing an electrolytic liquid having about 50% water or less.

30. (Previously presented) The method of claim 33 wherein disposing an electrolytic liquid includes disposing an electrolytic liquid having about 10% water or less.

31. (Previously presented) The method of claim 33 wherein disposing an electrolytic liquid includes disposing an electrolytic liquid having about 1% water or less.

32. (Previously presented) The method of claim 33 wherein disposing an electrolytic liquid includes disposing an electrolytic liquid having an organic solvent and a salt as constituents.

33. (Previously presented) A method for removing material from a microelectronic substrate, comprising:

disposing an electrolytic liquid between an electrically conductive material of a microelectronic substrate and at least one electrode, the electrically conductive material including at least one of tantalum and a tantalum compound, the electrolytic liquid having about 80% water or less and including a non-aqueous polar solvent that in turn includes methanol;

electrically coupling the conductive material of the microelectronic substrate to a source of varying electrical signals via the electrolytic liquid and the at least one electrode;

applying a varying electrical signal to the conductive material;

moving at least one of the polishing pad material and the microelectronic substrate relative to the other; and

removing at least a portion of the conductive material from the microelectronic substrate while the electrolytic liquid is adjacent to the electrically conductive material.

34. (Previously presented) A method for removing material from a microelectronic substrate, comprising:

disposing an electrolytic liquid between an electrically conductive material of a microelectronic substrate and at least one electrode, the electrically conductive material including at least one of tantalum and a tantalum compound, the electrolytic liquid having about 80% water or less and including a non-aqueous polar solvent and ammonium chloride;

electrically coupling the conductive material of the microelectronic substrate to a source of varying electrical signals via the electrolytic liquid and the at least one electrode;

applying a varying electrical signal to the conductive material;

moving at least one of the polishing pad material and the microelectronic substrate relative to the other; and

removing at least a portion of the conductive material from the microelectronic substrate while the electrolytic liquid is adjacent to the electrically conductive material.

35. (Previously presented) A method for removing material from a microelectronic substrate, comprising:

disposing an electrolytic liquid between an electrically conductive material of a microelectronic substrate and at least one electrode, the electrically conductive material including at least one of tantalum and a tantalum compound, the electrolytic liquid having about 80% water or less and including a non-aqueous polar solvent;

electrically coupling the conductive material of the microelectronic substrate to a source of varying electrical signals via the electrolytic liquid and the at least one electrode;

applying a varying electrical signal to the conductive material;

moving at least one of the polishing pad material and the microelectronic substrate relative to the other;

removing at least a portion of the conductive material from the microelectronic substrate while the electrolytic liquid is adjacent to the electrically conductive material; and

at least restricting exposure of the electrolytic liquid to water.

36. (Previously presented) A method for removing material from a microelectronic substrate, comprising

disposing a microelectronic substrate and an electrolytic liquid in an enclosure, the enclosure at least restricting exposure of the microelectronic substrate and the electrolytic liquid to water;

disposing an electrolytic liquid between an electrically conductive material of a microelectronic substrate and at least one electrode, the electrically conductive material including at least one of tantalum and a tantalum compound, the electrolytic liquid having about 80% water or less and including a non-aqueous polar solvent;

electrically coupling the conductive material of the microelectronic substrate to a source of varying electrical signals via the electrolytic liquid and the at least one electrode;

applying a varying electrical signal to the conductive material;

moving at least one of the polishing pad material and the microelectronic substrate relative to the other;

removing at least a portion of the conductive material from the microelectronic substrate while the electrolytic liquid is adjacent to the electrically conductive material.

37. (Previously presented) The method of claim 33 wherein the at least one electrode is a first electrode and wherein the method further comprises:

positioning the first electrode and a second electrode proximate to and spaced apart from the microelectronic substrate;

disposing the electrolytic liquid in fluid communication with the microelectronic substrate, the first electrode and the second electrode; and

passing the electrical signal from the first electrode through the electrolytic liquid to the microelectronic substrate and from the microelectronic substrate through the electrolytic liquid to the second electrode.

38. (Previously presented) The method of claim 33, further comprising:

moving at least one of the microelectronic substrate and the polishing pad material relative to the other; and

controlling a normal force between the microelectronic substrate and the polishing pad material to be about 1.0 psi or less.

39. (Original) A method for removing material from a microelectronic substrate, comprising:

disposing an electrolytic liquid between an electrically conductive material of a microelectronic substrate and at least one electrode;

electrically coupling the conductive material of the microelectronic substrate to a source of varying electrical signals via the electrolytic liquid and the at least one electrode;

applying a varying electrical signal to the conductive material;

at least restricting exposure of the electrolytic liquid to water; and

removing at least a portion of the conductive material from the microelectronic substrate.

40. (Original) The method of claim 39 wherein at least restricting exposure of the electrolytic liquid to water includes disposing the microelectronic substrate and the electrolytic liquid in an enclosure, the enclosure being at least partially water tight.

41. (Original) The method of claim 39 wherein disposing an electrolytic liquid includes disposing an electrolytic liquid having less than about 80% water.

42. (Original) The method of claim 39 wherein at least restricting exposure of the electrolytic liquid to water includes disposing a desiccant at least proximate to the electrolytic liquid.

43. (Original) The method of claim 39 wherein at least restricting exposure of the electrolytic liquid to water includes disposing a desiccant in the electrolytic liquid.

44. (Original) The method of claim 39, further comprising:

contacting the microelectronic substrate with a polishing pad material; and

moving at least one of the microelectronic substrate and the polishing pad material relative to the other.

45. (Original) The method of claim 39 wherein the conductive material includes at least one of tantalum and a tantalum compound, and wherein the method further comprises:

contacting the microelectronic substrate with a polishing pad material;

moving at least one of the microelectronic substrate and the polishing pad material relative to the other;

complexing the conductive material as a metal-organic species in solution; and

controlling a normal force between the microelectronic substrate and the polishing pad material to be about 1.0 psi or less.

46. (Original) A method for removing material from a microelectronic substrate, comprising:

contacting a microelectronic substrate with a polishing pad material, the microelectronic substrate having a conductive material;

disposing an electrolytic liquid at an interface between the polishing pad material and the microelectronic substrate;

applying a varying electrical current to the conductive material;

moving at least one of the microelectronic substrate and the polishing pad material relative to the other;

reducing a stability of an oxide of the conductive material by at least restricting exposure of the electrolytic liquid to water;

removing at least a portion of the conductive material from the microelectronic substrate.

47. (Original) The method of claim 46 wherein the conductive material includes at least one of tantalum and a tantalum compound, and wherein reducing a stability of an oxide of the conductive material includes reducing a stability of tantalum pentoxide.

48. (Original) The method of claim 46 wherein at least restricting exposure of the planarizing liquid to water includes disposing the electrolytic liquid and the microelectronic substrate in an enclosure with the enclosure being at least partially water tight.

49. (Original) A method for removing material from a microelectronic substrate, comprising:

contacting a microelectronic substrate with a polishing pad material, the microelectronic substrate having a conductive material;

disposing an electrolytic liquid at an interface between the polishing pad material and the microelectronic substrate;

applying a varying electrical current to the conductive material via the electrolytic liquid;

moving at least one of the microelectronic substrate and the polishing pad material relative to the other;

controlling a normal force between the polishing pad material and the microelectronic substrate by at least restricting exposure of the electrolytic liquid to water; and

removing at least a portion of the conductive material from the microelectronic substrate.

50. (Original) The method of claim 49 wherein controlling a normal force includes reducing the normal force compared with a normal force required if the exposure of the electrolytic liquid to water were not restricted.

51. (Original) The method of claim 49 wherein controlling a normal force includes controlling the normal force to be about 1.0 psi or less.

52. (Original) A method for removing material from a microelectronic substrate, comprising:

contacting a microelectronic substrate with a polishing pad material, the microelectronic substrate having at least one of tantalum and tantalum nitride;

disposing an electrolytic liquid at an interface between the polishing pad material and the microelectronic substrate, the electrolytic liquid having 1% water or less;

at least restricting exposure of the microelectronic substrate, the polishing pad material and the planarizing liquid to water with an enclosure disposed around the microelectronic substrate, the polishing pad and the electrolytic liquid;

positioning first and second electrodes to be spaced apart from the microelectronic substrate and in fluid communication with the microelectronic substrate via the electrolytic liquid;

applying a varying electrical current to at least one of the first and second electrodes;

moving at least one of the microelectronic substrate and the polishing pad material relative to the other;

applying a normal force between the polishing pad material and the microelectronic substrate of about 1.0 psi or less; and

removing at least a portion of the conductive material from the microelectronic substrate.

53. (Original) The method of claim 52, further comprising forming a tantalum complex.

54. (Original) The method of claim 52, further comprising complexing the tantalum as a metal-organic species in solution.

55. (Original) The method of claim 52 wherein applying a normal force includes applying a normal force to a microelectronic substrate positioned on top of the polishing pad material.

56. (Original) The method of claim 52 wherein moving at least one of the microelectronic substrate and the polishing pad material relative to the other includes moving the microelectronic substrate relative to the polishing pad material.

57. (Original) The method of claim 52 wherein disposing a planarizing liquid includes disposing a planarizing liquid containing an electrolyte.

58-71. (Canceled)

72. (Previously presented) The method of claim 22 wherein the at least one electrode is a first electrode and wherein the method further comprises:

positioning the first electrode and a second electrode proximate to and spaced apart from the microelectronic substrate;

disposing the electrolytic liquid in fluid communication with the microelectronic substrate, the first electrode and the second electrode; and

wherein removing at least a portion of the conductive material includes removing at least a portion of the conductive material by passing the electrical signal from the first electrode through the electrolytic liquid to the microelectronic substrate and from the microelectronic substrate through the electrolytic liquid to the second electrode.